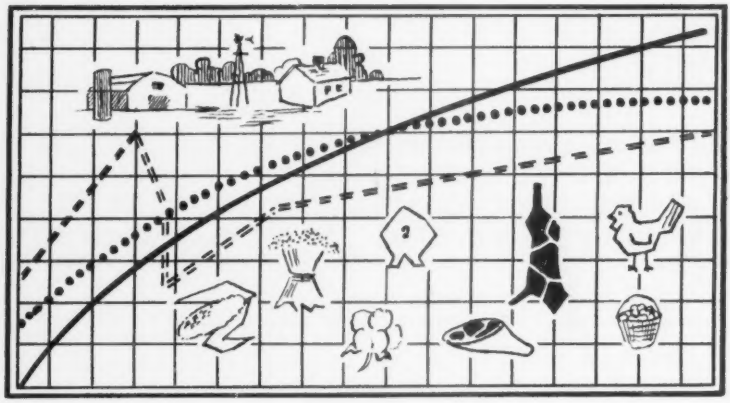
Oklahoma Current Farm Economics



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CONTENTS

Local Industrialization and Rural Development In Choctaw County, Oklahoma ... *E. J. R. Booth, W. E. Klein* 3

Structural Changes in the Meat Industry ... *Willard F. Williams* 10

Cotton Gin Fires and Losses in Oklahoma *Mark L. Fowler, Percy L. Strickland, Jr.* 20

Oklahoma Agricultural Commodity Price Changes *Leo V. Blakley* 26

Tables of Prices and Price Indexes 27

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Local Industrialization And Rural Development In Choctaw County, Oklahoma

E. J. R. Booth
W. E. Klein[1]

Many readers will be familiar with the nationally publicized "Hugo Story", a lively description of the recent program of self-improvement by the citizens of the county seat of Choctaw.[2] The program included a successful drive for new industry which has had considerable impact on the local economy of this largely rural county.

The Hugo Story

For the purposes of this report the important facts contained in the "Hugo Story" are as follows. Beginning around 1950, when per capita income in the county was running at $500 or less,[3] the 6,000 residents of Hugo raised in four years a total of $260,000 for varied programs of local development. A list of the major projects with expected payroll at the end of 1954 is contained in Table I. Apart from the large cash outlay and the expected payrolls, the variety of financing methods and the vigor with which they were pursued are the outstanding features behind this tabulation.

Population and Income

By late 1958, the program had begun to show its effects. Population of the county, which had been declining steadily from 28,000 in 1940 to 20,500 in 1950 and 16,500 in 1954, had started to rise and was estimated

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[1]The analysis upon which this report is based is taken from W. E. Klein, "The Effect of Local Industrialization in a Rural, Low-Income County," O.S.U. Master's Thesis, 1959.

[2]Anonymous, *The Hugo Study*, Mimeo., 86-739, (Choctaw, Oklahoma: Rural Development Committee, Hugo Chamber of Commerce), 1958.

[3]Bureau of Business Research, Oklahoma University, *Statistical Abstract of Oklahoma*, 1956.

Table I.—Development Projects of Choctaw County in Hugo, 1954.

Project	Method of Finance	Local Contribution	Expected Payroll
Baseball Stadium and Hospital	County Bond Issue and Federal Funds	$25,000 $15,000 and tax increase	— 60
Cannery	Industrial Foundation[3]	$50,000	30
Glove Factory	Industrial Foundation[2]	$90,000[3]	300
Boat Factory	Industrial Foundation[2]	$15,000	30
Retirement Homes	Industrial Foundation[2]	—	—
Milling Company	Small Business Administration plus Local Bank	—	25
Mattress Frame Company	Private	—	32
Furniture Company	Private	—	10

[1] Profit sharing corporation.
[2] Non-profit administrative group financed by outright gifts.
[3] Plus land, equipment and labor donated by local citizens.
Source: "Hugo Story," *op. cit.*

at nearly 18,000 in 1958. Urban population contributed most to this later trend, increasing by 1,000 in the last eight years, while non-urban population fell by nearly 2,500. Per capita personal income in the county rose to $700 in 1954, and by 1958 was $840 per person. This increase not only represents an average rise in real income (dollars of constant purchasing power) of five percent per year, but also means that the county's standing, relative to the state average, increased from a 44 to a 53 percent level.

Income Distribution by Industrial Sector

Over the period of 1950-58, sector employment and income underwent considerable adjustment. Table II illustrates the components of this change, with additional comparisons made possible by including the figures for 1940.

By 1950, the only source of income which had shown any real increase since 1940 was the welfare sector. Without this, total income would have dropped by $1.3 million (constant dollars) or 13 percent. Agricultural income per worker had fallen by 40 percent although farm workers had decreased by 24 percent. Only the service sector had maintained its level. The projects mentioned above were obviously needed.

By 1958 income per worker had increased, the main component being the surge in service income generated partly by the new payroll in manufacturing. Income per worker actually decreased in manufactur-

ing with the large increase in employment, but the income derived from manufacturing nearly doubled, and no doubt a proportion of this increase was spent locally several times.

Impact of Industrialization Upon Agriculture

From 1940 to 1958, there was a net addition of only one firm in the manufacturing sector. Industrialization was best characterized as an adjustment from capital intensive to labor intensive industry. Between 1954 and 1958, the effects of industrialization began to make themselves felt in agriculture, where much labor was underemployed.

After decreasing by 1440 workers from 1950 to 1954, total employment in the county decreased by only 96 workers in the next four years (see Table II). Ignoring the inter-sectoral transfers, it is helpful (and not unrealisitc) to assume that 96 of the 582 workers who left the farm emigrated from the county. This left a net figure of 486 workers (averaging $281 per worker) to find jobs in the three other sectors of the local economy.

Employment increases were such that 216 of these former farm workers could have found employment in manufacturing. Assuming they divided the *increase* in manufacturing income, they would have earned $1,625 per person by 1958. Local plant managers of the new industries confirmed that most of their work-force were former farmers and were paid unskilled rates for nearly year-round work. ($1,625 would be close to a full year's work at minimum wages.)

Similarly, 76 workers could have found employment in the service sector, dividing the increase in income for a $1,364 average. There was room on the welfare rolls for the remaining 194 off-farm migrants who averaged $459 per recipient. In each case, the farm workers would have improved their income status.

Under the assumptions of the above analysis, the industrialization program resulted in a general improvement of aggregate welfare provided only that the financial sponsors were repaid at adequate interest rates for their investment.

A stratified sub-sample of the farmers who had been interviewed in 1955 were again surveyed in 1958. It was found that a significant adjustment from crop to mixed farming and a significant increase in farm size had taken place. Much of the increase in farm income can be explained by the favorable trend in livestock prices, while the proportion of livestock farmers was increasing from 44 to 46 percent of all commercial farmers.

Table II.—Real Income and Employment by Industrial Sector in Choctaw County, 1940-1958.

Sector	Real Income[1]					Employment[2]					Real Income per Worker				
	1940	1950	1954	1958	1950-1958 Change	1940	1950	1954	1958	1950-1958 Change	1940	1950	1954	1958	1950-1958 Change
	thousand dollars				percent	number				percent	dollars per worker				percent
Agriculture	2453	1114	731	776	—30.3	3922	2986	2601	2019	—32.4	625	373	281	384	2.9
Manufacture	551	395	393	744	88.4	124	139	87	303	118.0	4443	2842	4517	2455	—13.6
Services[3]	6220	6421	7890	8927	39.0	2571	2570	2436	2512	—2.3	2419	2498	3239	3554	42.3
Welfare[4]	514	1671	1657	1854	11.0	2268	4716	3847	4041	—14.3	227	354	431	459	29.7
TOTAL	9738	9601	10671	12301	28.1	8885	10411	8971	8875	—14.8	1096	992	1189	1386	50.3[5]

[1] Estimate of current year's income before tax accruing to private individuals in the given sectors. Income deflated by the U. S. Consumer Price Index, All Items, 1947-49=100.

[2] Estimate of total workforce in the sectors.

[3] Residual category of mainly service industries.

[4] Transfer payments not for past or present services. Employment in this sector is represented by total recipients during the year.

[5] This weighted average lies outside its component since the weights do not total 100 percent for relative changes.

Source: U. S. Census of *Agriculture, Manufacture,* and *Population*; U. S. D. C., *Personal Income by States*; *Statistical Abstract of Oklahoma*; *Annual Report* of State Department of Public Welfare; and interviews made in 1959. See W. E. Klein, *op. cit.*, for details and discussion of the assumptions used.

In spite of large increases in local bank deposits, drastic adjustment from row crop to livestock farming, and expressed intentions in 1955 to increase their capital position, farmers actually reduced their indebtedness from $5364 to $4926 per farm, between 1955 and 1958. Most of this decrease was observed in debt not secured by land mortgage.

From 1955 to 1958, the proportion of farmers interested in off-farm employment declined from 40 to 23 percent while the proportion among non-farm rural residents increased from 38 to 50 percent. A reduction of underemployment among farmers was indicated but no overall drop in the potential labor supply from the rural area occurred.

In 1958 livestock farmers voiced no criticism about their markets, and only 12 percent of the livestock-product farmers were critical (mainly about the lack of an adequate local market for Grade B milk and fresh eggs). Nearly all crop farmers, however, were highly critical of the lack of organized truck-crop markets. Crop farmers now comprise only 13 percent of all farmers, compared to 35 percent in 1955. Local markets apparently have adjusted reasonably well to the rapidly changing composition of farm output.

In the face of these changes in county agriculture, farmers in 1958 viewed the urban-industrialization program with mixed feelings. Sixteen percent felt the program had actually harmed them, 52 percent claimed it had produced no effect on farm welfare, and only 32 percent credited the program with improving their lot. On the other hand, 45 percent believed that the shopping facilities and the community morale of Hugo had shown marked improvement.

The Service Sector

Development of the dependent service sector was not altogether due to increased manufacturing payrolls. Traffic on Highway 70 rose at an increasing rate over the entire period of 1940 to 1958. This contributed to service incomes and to several new service establishments on the highway. Nevertheless, the increase in manufacturing income and the larger workforce did imply higher spending in the service sector, since the new income earners would have created new purchasing power and at low wages would have spent large parts of their added income. Also, increased per-worker incomes in agriculture could have contributed to the improvement in service returns.

The drive for economic development, with its considerable finances, arises mainly in this service sector of the local economy. Has the invest-

ment paid off? The sponsors of the profit-sharing Industrial Foundation maintain ownership and receive a production-share rental for their cannery building. The $115,000 which set up the glove factory and the boat factory was an outright gift, however, and does not include the value of gifts in kind (valued up to $70,000). Assuming that the increase in service income was due to the industry generated payroll alone, the service sector would have received increases in real income totalling $2,590,000 during the four years 1954 to 1958 (at a linear trend). A large proportion of this increase would have accrued to the increased payroll in the service sector of 76 workers. In 1954, the average payroll per employee was $1754 in 1947-49 dollars. Holding this constant, an increase of $902,000 (constant dollars) is inferred in the personal income accruing to the proprietors of this sector, where 10 new firms appeared during the period. How much of the increase in proprietors' income was return to added investment is unknown. At all events, an investment in industrialization of $185,000 would require a payment of only $234,000 after four years at six percent compounded annually. It would appear that the investment had already paid off.

Some Speculative Recommendations

Much of the following goes beyond the empirical results of the 1958 study. Yet these recommendations may be of use to those charged with the responsibilty of planning local development programs in low-income areas still largely rural. First, the addition of low-skill, labor-intensive plants, although they may reduce average labor returns in industry, do increase local purchasing power. This increase appears sufficient to raise real income per capita through increased purchases of locally supplied retail goods and services. The size of the multiplier effect will depend upon the degree to which local goods and services are locally supplied.[4]

Secondly, there is a natural trend toward increased bank deposits as development proceeds and, thus, increased ability of the community to invest. In a community which is still largely rural, these funds might well be used to improve local agriculture. Local farmers sell most of their produce outside the community and spend much of their small gross incomes locally on farm supplies and home consumption. Their community multiplier effect is therefore larger than say the service sector whose supplies are bought in greater proportion outside the community. But farmers are apparently not yet convinced of the beneficial effects on

[4]This idea was expressed by Dr. W. B. Back during an address to Rural Development workers at Tahlequah, Oklahoma, 1959.

their welfare that local urban improvement has brought about. They as yet have been unwilling to avail themselves of the increased opportunities for farm improvement where they exist. That the local "operation bootstrap" deserves their help is demonstrated by the results discussed earlier.

Thirdly, as the leading citizens of the county already realize, only the first stage of a development program has been successfully achieved. Choctaw has indeed stopped temporarily the absolute and relative decline of her total economic welfare. But as she has attracted the labor-intensive industry she presently needs, other more advanced areas are reducing their dependence on such industry and are increasing the high-wage, capital-intensive industries of a modern economy. The community has managed to create two important assets for development: an increased ability to invest, and a better trained labor force. Future plans to use these assets must consider the type of industry to be imported with regard to establishing an industrial complex capable of supporting ever-increasing incomes. This complex should include more and more capital-intensive industries such as machinery, chemical, and electronic plants in order not to fall behind again in the ever-progressing general economy. Otherwise the local problem, which in 1950 was a rapidly declining agriculture and a dying farm town, will become a problem of a depressed urban-industrial community with industries of a type not capable of sustaining balanced economic growth and development. And depressed urban areas often appear worse than their rural counterparts, if only because they are more dense.

Structural Changes in the Meat Industry

Willard F. Williams

Startling changes in number, size, concentration, and specialization are taking place in the red meat industry, but they have gone unnoticed largely because of the attention given livestock production and distribution. The meat production and distribution industry includes packing (slaughtering) plants, non-slaughtering packinghouse (sales) branches, meat processors, independent wholesale distributors, and the meat procurement and merchandising activities of retailers.

Changes in the organization or structure of the meat industry are significant for several reasons. First, the changes and their impacts are quite different from those characteristic of other agricultural marketing industries, and many, therefore, are unexpected. Second, although not widely advertised and discussed, the changes are resulting in economic effects of considerable importance to producers, livestock marketing firms, consumers, and the meat industry itself. Third, they may indicate the nature and direction of future changes in the meat industry of Oklahoma and the West South Central area, where the structural trends discussed in this article are not so clearly in evidence.

Structural Changes at the Packer Level

Meat packing was the first of the food industries to witness the development of large-scale organizations. Through application of mass methods to the processing and distribution of meats, the industry was largely centralized in the hands of four or five leading packers before the turn of the century. As late as 1940, one author stated:

"The introduction of artificial refrigeration about 1875 literally revolutionized the packing industry. It now became possible to centralize livestock slaughter in midwestern cities like Chicago where economies

of transportation dictated that it should be located. With geographical centralization came the opportunity to establish large plants and to apply methods of mass production to the slaughtering process itself . . . Suffice it to say that the the process is such that it *never* can be decentralized and carried on by small entreprises . . . "[1]

"Never" is a strong word, indicating the writer underestimated the influence of additional technological and organizational development.

Decentralization *is* taking place in the industry, and relatively small volume, independently owned, commercial packers *are* growing rapidly, in size and number.

Changes in Number and Size of Packing Firms

Number and volume of independent wholesale packers increased rapidly during World War II. In the period 1950-55, as shown in Table I, the total number of packing plants dropped slightly, but the entire decline was accounted for by reductions in the number of small butcher-

Table I.—Number of Meat-Packing Plants in the United States, by Type and Percentage Changes, 1950-55.

Type of Plant	Meatpacking Plants		Percentage
	1950	1955	Change 1950-55
Wholesale:			
Federally Inspected	441	455	+ 3.2
Other[1]	725	952	+31.3
Local[2]	2,072	1,810	—12.6
Total	3,238	3,217	— .6

[1] Includes nonfederally inspected plants slaughtering over two million pounds liveweight annually.

[2] Includes nonfederally inspected plants slaughtering less than two million pounds liveweight but more than 300,000 pounds annually.

Source: *Number of Livestock Slaughter Establishments,* March 1, 1950, and *Number of Livestock Slaughter Establishments,* March 1, 1955, both by Agricultural Marketing Service, United States Department of Agriculture, Washington, D. C.

ing establishments. Numbers of federally inspected packing plants increased slightly, but numbers of "other wholesale" packing plants, those slaughtering two million or more pounds (liveweight) of livestock per year, increased by nearly a third. Among independents, many of the small local establishments apparently have grown greatly in volume to

[1] A. C. Hoffman, *Large-Scale Organization in the Food Industries,* Temporary National Economic Committee, Mono. No. 35, Washington, D. C., 1940 p. 15.

become wholesale packing plants.[2] At the same time, it is known that in the period since 1950, numbers of packing plants operated by the dominant firms, the so-called national packers, have remained substantially unchanged or have declined in most parts of the nation. Two of the four largest firms have gone through retrenchment programs in which numbers of plants were closed, and others of these firms appear headed in that direction.

A marked trend toward geographic decentralization in the meatpacking industry has been in process for many years. Slaughter volumes in Chicago, eastern slaughtering centers, San Francisco, and certain other large metropolitan centers have dropped sharply. Livestock slaughter in outlaying areas, meanwhile, has increased even more sharply.

Concentration in Meatpacking

Concentration is less of a factor in the meat-packing industry today than at any time in the last half-century. For cattle, the percentage of commercial slaughter accounted for by the four leading firms has dropped steadily from about 54 percent in 1916 to about 31 percent in 1954, a decline of 43 percent in relative position (Table II). A downtrend in con-

Table II. — Percentages of Total Commercial Slaughter Accounted for by the Four Leading Meat Packers, by Species for Specified Years, United States.[1]

Year	Cattle	Calves	Sheep and Lambs	Hogs
1916[2]	53.9	32.1	70.2	51.2
1924	50.5	40.1	66.4	44.7
1929	49.9	46.9	70.7	40.2
1935	46.6	46.3	70.5	41.4
1947	38.3	39.6	67.8	40.4
1955	30.8	34.7	58.5	36.4
Percentage Change 1916-55	—42.9	+ 8.1	—16.7	—28.9
Percentage Change 1935-55	—33.9	—25.1	—17.0	—12.1

[1]Includes the following four companies for each of the years shown: Swift, Armour, Wilson, and Cudahy.

[2] Includes Morris and Co., acquired by Armour and Co. in 1923.

Sources: Federal Trade Commission, *Agricultural Income Inquiry, Pt. 1; Principal Farm Products*, 1937, p. 198 and *Unfair Trade Practices in the Meat Industry*, Hearings before the Subcommittee on Antitrust and Monopoly of the Committee on the Judiciary, United States Senate, First Session, May 10, 1957, pp. 261-65.

[2]The "local" and "other wholesale" plants are owned almost exclusively by independent operators. Most of the federally inspected plants are also owned independently, but this classification includes nearly all of the packing plants of national packers. A "national packer" is characterized by ownership or control of a national system of distribution.

centration with respect to hogs and sheep and lambs also began with the growth of small interior packers during and immediately following World War I. However, the percentages of hogs and sheep representing slaughter of the four leading firms leveled off or increased again after 1924 until along in the late 1930's. Concentration in calves increased steadily until about 1930.

The downtrend in concentration reappeared during World War II and has accelerated. Since about 1940, the four leading firms have accounted for a rather steadily decreasing percentage of industry slaughter of each of the several species (Table II). In the period 1935-55, reductions in levels of concentration among the four leading firms were: cattle, 38 percent; calves, 25 percent; sheep and lambs, 17 percent; and hogs, 12 percent.[3]

Specialization in the Meatpacking Industry

Prior to about 1940 few meat packers of any type concentrated on the slaughter of a particular species to the exclusion of all others. In the 1930's and earlier, the smaller meat packer, slaughtering usually for local consumption, found it necessary to handle a full line of fresh red meats. Even at that time, however, the independent packer tended to leave the production of sausage and variety meats to the national packer or to the local processing specialist.

Independent packers at present are tending to specialize in slaughtering and to limit their slaughter to one or two species. Less than one-third of the nation's slaughtering plants handled all three principal species in 1954 (Table III). More than 20 percent slaughtered only one species, and an additional 50 percent slaughtered two species.

Table III. — Percentage of Packing Establishments Slaughtering One, Two, or All Three Species by Type of Packer, March 1, 1955.[1]

Type of Packer	One Species	Two Species	Three Species	Total
Federally Inspected	33.7	34.0	32.2	100.0
Nonfederally Inspected	18.3	52.5	29.2	100.0

[1] Includes all plants with an output of 300,000 pounds or more, liveweight, annually.

Source: *Number of Livestock Slaughter Establishments*, March 1, 1955, Agricultural Marketing Service, United States Department of Agriculture, Washington, D. C., June 15, 1955, p. 7.

[3] In absolute terms slaughter of cattle and calves by the four leading firms has remained relatively constant; slaughter of sheep and lambs by these firms has dropped sharply, and the slaughter of hogs has increased.

Some are specializing even within species, and this is of particular importance in the slaughter of cattle. Today, many independent packers slaughter steers or heifers only, while others specialize in cows. Still others have scaled their operations to handle only the particular within grade qualities which meet the detailed specifications of retail food chains. To an increasing extent, these packers sell in volume by description either directly to chains or to large volume wholesale distributors.

The national packers, on the other hand, usually do not specialize in slaughter of particular species or in the slaughtering operation alone.

Increasingly, the tendency among leading firms in the industry is toward emphasis upon prepared or processed meat products which usually are pre-packaged. These commodities lend themselves well to effective use of private brands.

Structural Changes Among Nonslaughtering Wholesale Distributors

Changes in Concentration

Prior to World War I, virtually all red meat produced in the nation moved to retailers and dining establishments directly or through (nonslaughtering) packer branch houses. As late as 1929, packer branches handled almost half of total sales by all packers.[4] However, sharply curtailed branch house operations, together with marked growth in the number and business volume of independent (nonslaughtering) meat wholesalers, represent two of the most striking of the structural changes in the meat industry. Numbers of independent wholesalers about doubled between 1929 and 1954. Business volumes of these firms, as measured by sales adjusted for changes in average wholesale prices of meat, rose 114 percent in the period 1929-54 and more than doubled during 1939-54 (Table IV). After 1948, price-adjusted sales of independent wholesalers rose several times faster than meat production in the United States, which means that wholesalers have been handling a sharply increasing percentage of the meat produced from slaughter in the nation.

Changes in Number

Numbers of packing house branches, in contrast with independent wholesalers, fell 43 percent in the period 1929-54 and their sales dropped

[4]Most packer branch houses are owned and operated by national packers. They are nonslaughtering handling, processing, and sales organizations of packers. Sales of these firms do not include sales made at slaughtering or combination slaughtering and processing plants of the parent companies.

Table IV. — Numbers of Establishments and Sales, Adjusted for Changes in Meat Prices, of Packing House Branches and Independent Wholesale Distributors, Meat Production and Percentage Changes, Specified Years and Periods of Years, United States.

Year or Period Of Years	Packing House Branches		Wholesalers		Meat
	Establishments	Sales[1]	Establishments	Sales[1]	Production
	Number	$1,000	Number	$1,000	Mil. Lbs.
Year					
1929	1,157	3,727,156	2,225	1,337,164	16,147
1939	940	2,855,384	2,552	1,378,229	17,534
1948	756	2,298,085	3,200	1,658,629	21,300
1954	664	2,697,483	4,357	2,866,193	25,333
Percentage Changes					
1929-39	—18.8	—23.4	+14.7	+ 3.1	+ 8.6
1939-48	—19.6	—19.4	+25.4	+ 20.4	+21.5
1948-54	—12.2	+17.5	+36.2	+ 72.8	+18.9
1939-54	—29.4	— 5.5	+70.7	+108.0	+44.5
1929-54	—42.6	—27.6	+95.8	+114.3	+56.9

[1] All sales reflect 1954 price levels since they were adjusted by the index of wholesale prices of meat and meat products, 1947-49=100, adjusted such that 1954=100.

Source: Preliminary Trade Report, 1954 Census of Business, Wholesale Trade, Series P. W. 3-36, October 1956, Bureau of the Census, U. S. Department of Commerce.

28 percent in the same period. However, in the last six years of this period, 1948-54, aggregate business volumes of packing house branches increased about in proportion with the growth in volume of total meat production.

A 19 percent increase in total meat production during 1948-54 compared with a 41 percent increase in combined sales of branch houses and wholesalers. This is evidence of at least a temporary reversal in the trend toward direct packer to retailer selling, despite the dramatic growth of large volume retailing organizations. Direct sales, nevertheless, have retained a dominent position among wholesale channels of meat distribution.

Specialization Among Nonslaughtering Wholesale Distributors

Branch houses sell mainly, in some cases almost exclusively, to independent retailers. As indicated earlier branch houses in some areas, the West particularly, tend to specialize heavily in the processing and sale of pork and of prepackaged branded items.

Independent wholesalers, on the other hand, differ greatly in terms of functions performed, services rendered, species handled, size, and other characteristics. The following are types which have developed:

(1) "Jobbers", "hotel and restaurant supply houses", or "purveyors", who specialize in the distribution of meat to eating establishments.

(2) "Wholesalers" and "breakers", who have increased rapidly in number and volume since 1940. These are relatively large volume firms, conforming more closely than the jobber to the definition of wholesaler as used in other food product industries. A few wholesalers concentrate on the distribution of dressed calves or pork, but most of them specialize in the purchase of beef carcasses from packers and the sale of wholesale beef cuts. Consequently, they are often referred to as "beef breakers" or "breakers".

(3) "Boners", who are principally engaged in removing bones and sinew from lower grade beef carcasses and in selling the meat to processing plants and retailers.

(4) "Frozen meat handlers", who specialize in chip steaks, veal patties, quick frozen cuts or other frozen meat products.

In addition, there are local nonslaughtering meat processors (typified by the sausage factory) not classified by the Census Bureau as a wholesaler but constituting an important part of the meat industry and highly specialized. Most independent breakers and boners came into existence during World War II, but jobbers also grew in number and volume during this period.

Some Reasons for Structural Changes in the Meat Industry

Bureau of Census data for 1958 will become available sometime during the coming year, and these data will show whether or not the trends indicated by earlier data have been sustained. Clearly, however, broad structural changes are rapidly altering the characteristics of the meat industry.

In the 1930's and earlier, compared with more recent years, the meatpacker was generally in a superior competitive position. On the buying side he faced a large number of relatively small producers, and on the selling side there was a large number of relatively small retailers. Under these circumstances the large volume packer with a national system of rail and truck distribution, private sources of information, and an economic research department enjoyed a particularly favorable situation.

After 1940 a variety of factors tended to change this situation considerably. These included: (1) numerous technological innovations including continuing improvements in transportation and refrigeration, (2) development and growth of large volume retailers, and adoption by these retailers of mass buying practices with emphasis upon uniformity, (3) rapidly increasing and more widespread use of the federal grade standards for beef, veal, and lamb, and (4) improvements in market news data and wider distribution of this information.

Improvements in transportation and refrigeration reduced packers' dependence on rail transportation and tended to widen the market territory of smaller packers. These improvements also eliminated the need for many of the branch houses of national packers, and contributed to the trend toward decentralization of the packing industry.

By 1948 meat packers found themselves dealing with astute and knowledgeable food chain buyers, who in the aggregate purchased nearly 40 percent of the meat sold at retail. This development added substantially to the volume potential of small packers and improved their competitive position relative to the largest packers. Retail chain buyers preferred to buy at and receive shipments directly from packing plants and were not interested in tying themselves to one or a few packers. Meanwhile, national packers remained encumbered with many large antiquated plants and a distribution system tailored to the needs of the rapidly vanishing independent retailer. Fresh meat sales of national packers and their branches continued to drop relatively consequently.

A contributing factor in the trend toward purchases by chains from small independent packers was increased use of the federal grade standards. Retailers became familiar with the official grade standards for beef, veal, and lamb during World War II and the Korean conflict, when federal grading was compulsory. By the mid-1950's large numbers of chain buyers, followed by many other retail buyers and dining establishments, were voluntarily demanding federally graded meat. These buyers (and the packers) soon discovered that small country packers could supply "U.S. Choice" or another particular grade of beef, veal, or lamb as easily as large volume packers in the centralized slaughtering areas. Many national packers resisted this trend, preferring instead to sell on the basis of their private brands. The federal grades, accordingly, provided independent packers with national rather than strictly local or regional markets, greatly encouraged their further development and growth, and contributed to further decentralization of the meat packing industry. In-

creased use of grades and specifications also encouraged the trend toward specialization among meat packers.

Increased use of uniform grade standards and improvements in mass communication have facilitated greatly the collection and dissemination of market news prices and other marketing information. This in turn has strengthened the competitive position of independent packers relative to that of national packers.

The vigorous growth of independent wholesale distributors seems to stem mainly from four interrelated circumstances. These are: (1) the increasing consumption of meat in hotels, restaurants, and other dining estabilshments, (2) the growth of independent shipper type packers in surplus meat producing areas who often rely upon independent wholesalers in deficit areas for distribution of their products, (3) the increased degree of specialization by independent packers, and (4) the growth of retail food chains. For many reasons, the chains buy large quantities of beef and some other meats in the form of wholesale cuts from breakers. These breakers are also important suppliers of the jobbers or hotel supply houses. But as the demand for services has grown and as the independent packer has divested himself of particular functions, mainly breaking and fabricating, these functions have been performed to an increasing extent by the independent wholesaler.

Implications of Changes for Producers

Continuing adjustments in the location and structure of the meat industry and in consumers' demands for meat mean that continuing adjustments will be required in the production and distribution of livestock. Beef producers in the Northeast and in other deficit producing areas probably will find it neecssary to adjust further to additional increases in shipments of carcass beef from the Corn Belt. Specialization in meat packing and increasing emphasis upon high quality and uniformity at the packer and retailer levels probably will require (1) increased feeding of livestock, cattle particularly, in large-scale commercial feedlots, (2) more specialization in production and distribution of livestock with emphasis upon volume and uniform classes and qualities, and (3) increased attention to marketing. Buyers probably will become even less interested than at present in mixed lots of grass fat cattle, and small-volume farmer feeders of steers will find it increasingly difficult to compete with the commercial feedlot operators.

In some respects producers have benefited materially from the recent changes and adjustments. Decentralization in the meat packing industry has brought packers closer to the producer, which has reduced shrinkage and transportation charges. An increased number of relatively large independent packers has tended to increase competition among packers in buying and this has had a salutary effect on prices received. Prices of feeder cattle have been markedly affected by the expanding demand for fed beef, while development and growth in some areas of a highly specialized processing industry has had a salutary effect on the prices of cows and bulls. Finally, federal grading and improvements in the market news services have sharply reduced pricing errors at each stage in the marketing system so that producer prices now more nearly reflect desires and preferences of consumers.

Cotton Gin Fires and Losses in Oklahoma[1]

Mark L. Fowler
Percy L. Strickland, Jr.[2]

Frequency of fires in cotton gins, the average losses per fire, primary causes of fires, the efficiency of fire-preventive devices, and other questions were the subject of a recent study of the Oklahoma Agricultural Experiment Station. The study was made in cooperation with agricultural experiment stations in seven other cotton producing states and the Agricultural Marketing Service, U. S. Department of Agriculture.

The Oklahoma study is based on information obtained from a sample of gins located in 14 southwest Oklahoma counties,[3] during the three ginning seasons of 1956-57, 1957-58, and 1958-59. In 1955, a total of 172 cotton gins were located in these counties. This was 51 percent of all active gins in the state at that time. Moreover, in the first year of the sudy, they accounted for 79 percent of the total cotton produced in the state. The corresponding figures in 1957-58 and 1958-59 were 84 and 82 percent, respectively.

There were 59 gins in the sample during the 1956-57 ginning season, 51 during 1957-58, and 44 during 1958-59 (Table I). Thus the findings reported herein are based on ginning experience equivalent to 154 gin years. For the three years combined, the gins in the sample ginned a total of 255,045 bales of cotton. This was 30.5 percent of all cotton produced in Oklahoma during those three years and over 37.2 percent of all cotton produced in the 14 southwest counties.

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[1] Based on a master's thesis manuscript at Oklahoma State University, "An Analysis of the Fire Experience and Insurance Cost for Oklahoma Cotton Gins, 1956-1958", by Percy L. Strickland, Jr.

[2] Assistant Professor and Graduate Research Assistant, respectively.

[3] The 14 southwest counties are: Beckham, Caddo, Canadian, Comanche, Cotton, Custer, Grady, Greer, Harmon, Jackson, Kiowa, Roger Mills, Tillman, and Washita.

Table I. — Summary of Bales Ginned and Number of Fires, Sample Gins, Oklahoma, 1956-1958.

Item	Years			
	1956	1957	1958	Total
Number of Gins	59	51	44	154
Total Number of Fires	68	84	59	211
Average Fires per Gin	1.15	1.65	1.34	1.37
Number of Gins Having Fires	34	37	23	94
Total Number of Bales Ginned	77,904	81,152	95,989	255,045
Average Number of Bales per Gin	1,320	1,591	2,182	1,656
Bales Ginned per Fire	1,146	966	1,627	1,209

Frequency of Fires

Table I shows the number of gins in the sample, the number of fires, and the number of bales ginned for each of the three ginning seasons. There was an average of 1,656 bales per gin per year. Of the 154 gins in the sample for the three years combined, 60[4] reported no fires for a full ginning season and 94 reported a total of 211 fires. This was an average of 1.37 fires per year for all sample gins. The average number of bales ginned per fire was 1,209.

When gins were classified by the number of bales ginned, it was found that as the number of bales ginned per gin per year increased, the number of fires per gin also increased. However, it was further found that in the higher volume gins, the average number of bales ginned per fire was larger than in the lower volume gins.

Almost 40 percent of the sample gins reported no fires for a full season and 83 percent reported no more than two fires per season. Ninety-three percent of the gins had no more than four fires in a single season. One gin reported seven fires in one season, and one gin reported eight fires in a season.

The Probable Cause and Location of Fires

Matches were the most important cause of fires. Sixty-two fires, or 27.4 percent of all fires during the three seasons, were so caused. Most of these fires were first noticed in the overhead cleaners and conveyor. Friction in the rollbox was the next most important cause of fires, accounting for 9.7 percent. Most of these fires were first noticed in the gin stands. Rocks and metal in the seed cotton accounted for 8.8 and 7.0 per-

[4] This is simply the sum of the number of gins which reported no fires in the individual years.

cent, respectively, of all fires. These were followed closely by sparks, which caused 6.6 percent of all fires. The fires caused by rocks, metal, and sparks were first noticed in a wide variety of places, although more fires caused by rocks were first noticed in the gin stands than in any other location. The cause of over one-fourth of all fires was reported to be unknown.

Forty-one percent of all fires were first noticed in the gin stands or overhead cleaners. About 10 percent were first noticed in the conveyor. The remaining 50 percent were first noticed in a wide variety of places.

Losses from Fires

The 211 fires resulted in an estimated total loss of $168,455.29 in buildings, machinery, cotton, gin down time, and fire extinguisher material used. This was an average loss of $1,093.87 per gin per year and $798.31 per fire. The average loss per bale ginned was $0.66 (Table II).

Table II. — Summary of Fire Experience, by Fire-Preventive Device, Sample Gins, Oklahoma, 1956-1958.

Item	Gin Classification			
	Control	Green Boll Traps	Green Boll Traps and Magnets	Total
Number of Gins	71	71	12	154
Number Having Fires	36	47	11	94
Number of Fires	84	93	34	211
Number of Bales Ginned	101,660	118,424	34,961	255,045
Number of Fires per Gin per Year	1.18	1.31	2.83	1.37
Number of Bales per Gin per Year	1,432	1,273	1,028	1,656
Bales Ginned per Fire	1,210	1,273	1,028	1,209
Losses per Gin per Year	$851.42	$1,504.34	$100.17	$1,093.87
Losses per Fire	$719.64	$1,148.47	$ 35.35	$ 798.31
Losses per Bale per Year	$ 0.59	$ 0.90	$ 0.03	$ 0.66

The extent of the fires ranged all the way from some fires which were quickly extinguished and caused no loss to three fires in which the entire gin plant and cotton on the bale yard were a total loss. These three fires resulted in losses estimated at $149,750.00, or about 89 percent of the total losses from all fires. Only 41 of the 211 fires (about 20 percent) caused losses of $100.00 or more each.

In terms of total losses, the loss in gin machinery of $125,524.00 was by far the largest loss, followed by losses of $22,500.00 to gin buildings and $16,822.25 to cotton. The three fires mentioned above accounted for all but $524.00 of the machinery loss and all of the loss to gin build-

ings. In terms of losses per bale for all the gins in the sample, machinery loss amounted to $0.49 per bale, building loss was $0.09 per bale, and cotton loss was $0.07 per bale.

Effects of Fire-Prevention Devices

Fire-preventive devices[5] apparently were partially effective in reducing the frequency of fires from those causes which they were designed to eliminate. Rocks and metal caused ten fires in gins with green boll traps and five fires in gins with green boll traps and magnets. However, rocks and metal caused only 11.5 percent of all fires in gins with either green boll traps or both boll traps and magnets, while they caused 22 percent of all fires in gins with no such equipment.

When data on all fires were analyzed, it was found that the highest loss per bale, per fire and per gin occurred in those gins with green boll traps only. The lowest loss in each case occurred in those gins with both devices (Table II). When the two groups of gins with these fire preventive devices are combined, the loss per bale, per gin, and per fire is roughly the same for gins with and without such equipment. These data indicate that fire-preventive devices did not reduce losses from fires.

However, green boll traps and magnets were designed primarily to remove from the seed cotton such objects as metal, rocks, and green bolls known to cause fires in gins. Only 67 of the total of 211 fires were believed to be caused directly or indirectly by these factors. When the data from these 67 fires were analyzed, it was found that gins with this equipment suffered less loss per gin, per fire and per bale ginned than did those gins without these devices. For example, the loss from these 67 fires was $0.50 per bale ginned for gins without this equipment, while it was only $0.02 per bale ginned for gins with green boll traps and for gins with green boll traps and magnets in combination.

Effect of Cleaning and Drying Equipment

When all fires were considered, elaborate gins had more fires per gin and higher losses per gin than did moderate gins (Table III). However, the elaborate gins also ginned more cotton per gin per year. Thus, they had a smaller loss per bale of cotton ginned. They also had a smaller loss per fire.

[5] According to returns from state-wide mail survey, the only fire-preventive devices in use in Oklahoma cotton gins in 1955 were either green boll traps alone or green boll traps and magnets in combination.

Table III. — Summary of Fire Experience, by Amount of Cleaning and Drying Equipment, Sample Gins, Oklahoma, 1956-1958.

Item	Moderate	Elaborate	Total
Number of Gins	62	92	154
Number Having Fires	33	61	94
Number of Fires	69	142	211
Number of Bales Ginned	65,460	189,585	255,045
Number of Fires per Gin per Year	1.11	1.54	1.37
Number of Bales per Gin per Year	1,056	2,061	1,656
Bales Ginner per Fire	946	1,335	1,209
Losses per Gin per Year	$968.19	$1,178.61	$1,093.87
Losses per Fire	$869.98	$ 763.55	$ 798.31
Losses per Bale per Year	$ 0.92	$ 0.57	$ 0.66

Insurance Coverage, Premiums Paid and Claims Collected

All but 12 of the sample gins carried insurance on gin buildings and machinery. Combustible gins had an average value of $60,678 and were insured for an average of $47,962. Non-combustible gins were valued at an average of $108,842 and were insured for an average of $85,144. Thus each class had an average coverage of about 79 percent of the value of gin buildings and machinery.

The average insurance rate was $3.329 per $100 valuation for combustible gins and $1.184 per $100 valuation for non-combustible gins.

Combustible gins paid total premiums of $57,239, an average of $698 per gin. Claims collected by these gins totaled $79,920, or an average of $975 per gin. Thus claims collected by combustible gins were 140 percent of premiums paid.

Non-combustible gins paid total premiums of $43,718, or an average of $728 per gin. Claims collected for damages to machinery and buildings totaled $1,820, or an average of $30 per gin. Thus claims collected by non-combustible gins were only four percent of premiums paid.

Bale yard insurance was carried by 129 of the sample gins. They paid an average premium of $168 per gin. Claims collected averaged $76 per gin, or 45 percent of premiums paid.

Summary

On the basis of this study, cotton gins experienced an average of 1.37 fires per year. They baled an average of 1,209 bales of cotton for each

fire that occurred. The average loss per fire was $798, and the average loss per gin per year was $1,094. The average loss per bale ginned was $0.66.

Most fires were caused by matches (27 percent of all fires) and unknown factors (26 percent of all fires). Other important causes were friction in the rollbox, rocks and metal, and sparks. Most fires started in the gin stands or overhead cleaners.

It appears from this study that fire-preventive devices may have reduced the frequency of fires caused by factors which they were designed to eliminate or control. But they apparently were not effective in reducing overall losses per bale of cotton ginned.

Many fires were caused by factors which the devices were not designed to control, however. When these fires were eliminated from the analysis, the average loss per gin per year and per bale of cotton ginned per year was substantially lower in those gins with such equipment than in the control group of gins.

However, the small size of the sample, the limited number of fire-preventive device and equipment combinations present in Oklahoma, and the shortness of the time period covered makes it necessary to use caution in using the findings of this study for inferiential purposes. This is true particularly in attempts to draw inferences regarding the influence of fire-preventive devices or the amount of cleaning and drying equipment in gins on the frequency of and losses from gin fires.

However, when the data from the Oklahoma study are combined with those from other states, this shortcoming should be largely overcome. The regional analysis will be based on information obtained from 790 cotton gins relating to over 7,000 gin fires.

The findings based on the Oklahoma study should be helpful in pointing out not only the major causes of gin fires, but also the economic importance of fire losses. Thus the findings may provide an incentive to ginners to do a better job in fire prevention.

Oklahoma Agricultural Commodity Price Changes

Leo V. Blakley

Prices received by Oklahoma farmers continued down in December but recovered slightly in January. At 252 percent of the 1910-14 average, January prices were 8 percent below the level of a year earlier. Average U. S. prices were lower than in Oklahoma but the price changes were similar.

The index of prices paid by U. S. farmers held fairly steady at 296 to 299 percent of the 1910-14 average during the past 12 months. Lower prices of animals and some feeds have essentially offset the gradual but persistent general rise in prices of other commodities and services purchased by farmers. The index of purchasing power of Oklahoma farm commodities was 84 on January 15. This was the same as in December but 8 points below January last year.

Crop prices continued stable. Prices of hay and feed grains have increased from last fall but in this group only hay and oat prices were higher than a year ago. Cotton prices exhibited a seasonal increase in January and were higher than last year. Oil bearing crop prices were down from both fall and year ago levels primarily because of lower prices of peanuts.

In January, livestock and livestock product prices ended a seven month period of decline. Prices averaged 14 percent below a year earlier, with much of the drop caused by lower prices of meat animals. The level of dairy product prices in January was essentially unchanged from December but slightly higher than last year. Poultry and poultry product prices continued at low levels compared with both last month and a year ago.

All the product-feed price ratios in Table IV were lower in January than in December. The hog-corn price ratio dropped to 10.5 from 11.1 and was particularly low as compared with a year ago. The egg-feed price ratio in January was 13 percent below December and 18 percent below January last year. The turkey-feed and milk-feed ratios were lower than in December but averaged slightly higher than in January, 1959.

Prices received by Oklahoma farmers should increase seasonally during the next two to three months. Crop prices are expected to increase up to the aproximate time of harvest but hay prices could start down this month. Cattle prices should be fairly stable with slightly weaker fed cattle prices and slightly stronger stocker and feeder cattle prices. Grade A milk prices should decline in the April, May, and June period, which would be reflected in blend prices. Prices of poultry and poultry products are expected to decline from the January-February levels.

Table 1.—Monthly and Season Average[1] Prices Received by Farmers for Oklahoma Farm Products. (Dollars)

	Wheat	Corn	Oats	Barley	Rye	Grain Sorghum	All hay	Alfalfa hay	Wild hay	Cotton-lint	Cotton-seed	Soy-beans	Pea-nuts
1957	1.93	1.24	.65	.80	.97	1.64*	19.30	23.62*	16.22*	.227	49.70	2.01	.102
1958**	1.75	1.15	.56	.77	.89	1.70	15.00	18.69	12.97	.310	41.40	1.80	.105
1959 Jan.	1.80	1.12	.64	.89	.98	1.72	17.10	20.40	14.00	.252	41.00	1.95	.103
Feb.	1.84	1.12	.64	.89	.98	1.78	16.40	19.60	13.30	.264	42.00	1.95	.105
Mar.	1.84	1.13	.63	.88	.97	1.80	16.30	19.80	12.80	.256	42.00	1.95	.105
Apr.	1.87	1.16	.65	.88	.95	1.86	16.80	20.40	13.20	.296	-- --	2.00	.102
May	1.82	1.18	.64	.83	.90	1.90	16.40	20.20	12.70	.270	-- --	2.00	---
June	1.69	1.20	.55	.69	.88	1.92	15.60	19.00	12.30	.290	-- --	1.95	---
July	1.71	1.20	.60	.74	.89	1.89	15.70	19.50	12.00	.290	-- --	1.90	---
Aug.	1.73	1.20	.64	.77	.87	1.69	15.60	19.60	11.50	.300	41.00	1.89	---
Sept.	1.77	1.05	.64	.78	.95	1.46	16.70	21.10	12.50	.310	38.00	1.77	.100
Oct.	1.81	1.05	.67	.79	.98	1.48	16.90	21.30	12.80	.300	37.00	1.78	.095
Nov.	1.83	1.05	.68	.81	.95	1.50	18.20	22.50	14.00	.280	38.00	1.84	.095
Dec.	1.83	1.05	.69	.82	.94	1.52	20.20	25.80	15.60	.267	38.00	1.85	.095
1960 Jan.	1.83	1.10	.72	.83	.97	1.56	20.20	25.80	15.20	.271	38.00	1.85	.090

	Cattle	Calves	Sheep	Lambs	Hogs	Wholesale milk	Butter-fat	All chickens	Commercial broilers	Eggs	Turkeys	Wool	Alfalfa seed	Sweet Potatoes
1957	15.90	17.90	6.60	19.60*	17.90	4.59*	.53	.163	.183	.293	.221	.45	21.20*	2.85
1958**	21.50	25.50	7.80	21.00	19.60	4.65	.52	.166	.179	.328	.222	.28	19.00	2.42
1959 Jan.	22.70	27.50	7.10	17.40	16.60	4.80*	.51	.154	.165	.363	.230	.28	20.00	2.55
Feb.	23.10	28.50	7.20	17.40	15.80	4.70	.52	.141	.160	.320	.22	.28	20.00	2.55
Mar.	23.20	28.30	7.50	18.30	15.30	4.65	.52	.133	.160	.288	.22	.27	19.50	2.55
Apr.	24.00	29.30	7.50	19.60	15.60	4.35	.52	.133	.150	.227	.22	.30	20.00	---
May	24.10	29.30	7.20	22.00	15.30	4.10	.52	.136	.150	.205	.21	.33	19.50	---
June	23.80	29.30	7.00	21.40	15.30	4.15	.52	.130	.145	.205	.20	.36	-- --	---
July	23.10	29.50	7.50	20.50	14.00	4.30	.52	.141	.155	.241	.21	.37	-- --	---
Aug.	22.60	28.00	6.50	19.20	13.70	4.35*	.53	.136	.150	.253	.21	.37	19.70	2.60
Sept.	21.90	27.00	6.50	18.40	13.20	4.45	.53	.135	.145	.279	.21	.35	20.00	2.50
Oct.	20.10	25.00	7.00	16.80	12.00	4.75	.53	.124	.135	.297	.21	.34	19.70	2.20
Nov.	19.40	24.50	6.80	16.80	12.20	4.85	.54	.121	.140	.314	.24	.34	19.40	2.30
Dec.	18.30	23.00	6.70	16.10	11.60	4.75	.55	.140	.160	.324	.270	.34	19.10	2.20
1960 Jan.	19.10	23.20	6.70	16.80	11.60	4.80**	.53	.144	.155	.285	.240	.35	19.30	2.50

SOURCE: *Prices Received by Farmers,* Agricultural Marketing Service, U.S.D.A., Oklahoma City, Oklahoma, Monthly Releases or *Agricultural Prices,* A.M.S., U.S.D.A., Washington, D. C.

[1] Annual prices for crops are season average prices for the crop year weighted by marketings. Annual prices for livestock and products are season average prices for the calendar year weighted by marketings.

* Revised ** Preliminary *** 9 months average

Table 2.—Index Numbers of Prices Received by Farmers for Oklahoma Farm Products.[1]

(Percent of 1910-14 Average)

		Wheat	Corn	Oats	Barley	Rye	Grain sorghums	All Hay	Cotton-lint	Cotton-seed	Sweet Potatoes
1957		227	205	166	150	123	155	261	244	286	235***
1958		215	180	135	128	109	143	183	228*	251	229
1959	Jan.	209	172	143	149	114	143	194	223	210	207
	Feb.	213	172	143	149	114	148	186	233*	215	207
	Mar.	213	174	141	147	113	150	185	226	215	215
	Apr.	217	166	145	147	110	155	190	261	215	215
	May	211	182	143	139	105	158	186	239	215	---
	June	196	185	123	115	102	160	177	256*	215	---
	July	198	185	134	124	103	157	178	256	215	---
	Aug.	201	185	143	129	101	140	177	265	210	211
	Sept.	205	162	143	130	110	121	189	274	194	203
	Oct.	210	162	150	132	114	123	206	265	189	179
	Nov.	212	162	152	135	110	125	206	247	194	187
	Dec.	212	162	154	137	109	126	229	236	194	179
1960	Jan.	212	169	161	139	113	130	229	239	194	203

		Cattle	Calves	Sheep	Lambs	Hogs	Wholesale milk	Butterfat	All chickens	Eggs	Wool
1957		328	297	147*	336	256	239*	225*	173	171	261
1958		445*	423	169*	358	281*	242*	223*	176*	185	182
1959	Jan.	470	461	154	299	236	249*	218	164	204	163
	Feb.	478	477	156	299	224	244	222	150	180	163
	Mar.	480	474	162	315	217	241	222	151	162	157
	Apr.	497	491	162	337	222	226	222	142	128	175
	May	499	491	156	379	217	213*	222	145	115	192
	June	493	491	152	368	217	215	222	138	115	210
	July	478	494	162	353	199	223	222	150	135	215
	Aug.	468	469	141	330	195	226*	226	145	144	215
	Sept.	453	452	141	317	188	231	226	144	157	204
	Oct.	416	419	152	289	170	247	226	132	167	198
	Nov.	402	410	147	289	173	247*	231	129	176	198
	Dec.	379	385	145	277	165	247	235	149	182	198
1960	Jan.	395	389	145	321	165	249	226	153	160	204

SOURCE: Annual data are averages of months for calendar years and are compiled by Dept. of Ag. Econ., Oklahoma State University, from data supplied by Agricultural Marketing Service, U.S.D.A., Oklahoma City, Oklahoma, and Washington, D. C. For previous years, see Oklahoma Agri. Exp. Sta. Publication P-297, Prices Received by Oklahoma Farmers, 1910-1957.

[1] For the index of purchasing power of a unit of an individual commodity in terms of commodities used in farm production and family living, interest, taxes and wage rates, divide the index of price received by Oklahoma farmers (in this table) by the index prices paid by United States farmers in Table 4 for the same month and multiply by 100.

* Revised ** Data not available *** 9 months average

Table 3.—Price Indexes of Groups of Oklahoma Farm Products.

(Percent of 1910-14 Average)

		All farm products	All crops	Feed grains	Feed grains and hay	Cotton and cottonseed	Oil bearing crops	All livestock & L.S. Prod.	Meat animals	Dairy products	Poultry and poultry prod.
1957		251	237	182	215	247	306	267*	305	255*	175
1958		271*	220*	159	172	230*	283	327*	401*	256*	187*
1959	Jan.	273	215	159	176	220	267	336*	413	259*	199
	Feb.	275	220	160	174	230	273	335	418	257	177
	Mar.	273	219	161	174	224	273	332	418	255	164
	Apr.	278	228	166	179	255	268	333	432	246	136
	May	273	220	167	179	235	268	330	432	239	126
	June	266	213*	164	174	250*	267	328	428	239	125
	July	267	215	166	175	250	267	324	416	242	143
	Aug.	266	218	162	172	258	265	319*	405	246*	148
	Sept.	266	221	146	166	264	256	314	392	249	158
	Oct.	258	222	148	168	256	245	298	359	260	163
	Nov.	256	220	150*	174	240	247	294*	350	261*	171
	Dec.	250	219	150	182	230	247	285	330	264	180
1960	Jan.	252	220	156	187	233	238	288	341	263	164

Purchasing Power Indexes of Groups of Oklahoma Farm Products[1]

(Percent of 1910-14 Average)

		All farm products	All crops	Food grains	Feed grains	Feed grains and hay	Cotton and cottonseed	Oil bearing crops	All livestock & L.S. prod.	Meat animals	Dairy products	Pltry. and pltry. prod.
1957		88	83	79	64*	75*	86	107*	93	106	89*	61*
1958		92	75	73	54	59	78*	96	111	137	87*	64*
1959	Jan.	92	72	70	53	59	74	90	113*	139	87*	67
	Feb.	93	74	72	54	59	77	92	113	141	87	60
	Mar.	92	73	71	54	58	75	92	111	140	86	55
	Apr.	93	76	73	56	60	85	90	111	144	82	45
	May	91	74	71	56	60	79	90	110	144	79*	42
	June	89	70	66	55	58	84*	90	110	144	80	42
	July	90	72	66	56	59	84	90	109	140	81	48
	Aug.	90	73	67	55	58	87	89	107	136	83*	50
	Sept.	90	74	69	49	56	89	86	106	132	84	53
	Oct.	87	75	71	50	57	86	83	101	121	88	55
	Nov.	86	74	71	51	59	81	83	99	118	88*	58
	Dec.	84	74	71	51	61	77	83	96	111	89	66
1960	Jan.	84	74	71	52	63	78	80	96	114	88	55

SOURCE: Compiled by Dept. of Ag. Econ., Oklahoma State University, from data supplied by Agricultural Marketing Service, U.S.D.A., Oklahoma City, Oklahoma, and Washington, D. C. For previous years, see Oklahoma Agri. Exp. Sta. Publication P-297, Prices Received by Oklahoma Farmers, 1910-1957.

[1] The ratio of prices received by farmers to prices paid by farmers for commodities used in farm living and production, interest, taxes and wage rates. For individual commodities, see footnote 1 of Table 2.

* Revised

Table 4.—Index Numbers in the United States, Index of Demand Deposits in Oklahoma, and Oklahoma Price Ratios.

		United States index numbers of:					Oklahoma price ratios[4]			
		Prices received by farmers (1910-14=100)	Prices paid by farmers (1910-14=100)	Wholesale prices (1910-14=100)	Industrial manufacturing payrolls[1] (1947-49=100)	Index of demand deposits in Oklahoma[2 3] (1923-25=100)	Hog corn	Egg feed	Turkey feed	Milk feed
1954		246	277	247	137.7	289.3	15.15	8.6	7.4	1.479
1955		232	276	248	152.8*	291.3	11.42	9.5	7.4	1.622*
1956		230	278	256	161.3	297.4	10.35	9.7	7.2	1.695*
1957		235	286	264	162.7	290.9	13.55	9.2	6.8	1.757*
1958		250	293	268	148.8	313.0	16.87	10.2	6.9	1.968*
1959	Jan.	244	298	270	158.2	341.6	14.82	11.1	7.1	1.879
	Feb.	243	297	267	160.4	335.7	14.11	9.8	6.7	1.854
	Mar.	244	298	267	165.1	330.0	13.54	8.9	6.8	1.856
	Apr.	244	299	270	167.0*	339.2	13.45	6.9	6.6	1.696
	May	245	299	270	169.6	329.7	12.97	6.2	6.4	1.619*
	June	242	298	267	174.4*	332.9	12.75	6.4	6.3	1.748
	July	240	298	267	170.2	341.5	11.67	7.6	6.6	1.810
	Aug.	239	297	267	164.9	332.8	11.42	8.1	6.6	1.828
	Sept.	239	297	270	169.1	331.8	12.57	9.1	6.8	1.929
	Oct.	235	296	267	165.9*	330.7	11.43	9.6	6.8	2.017
	Nov.	230	297	267	166.4	339.4	11.62	10.1	7.7	1.971*
	Dec.	228	297	267		329.2	11.05	10.5	8.7	1.956
1960	Jan.	231	299	267			10.55	9.1	7.6	1.925

SOURCE: Indexes of U. S. prices received and prices paid by farmers and indexes of U. S. wholesale prices, from *Agricultural Prices*, A.M.S., U.S.D.A., Washington, D. C. Indexes of demand deposits in Oklahoma, calculated by Dept. Agri. Econ., Okla. Agri. Exp. Sta. from data furnished by Federal Reserve Board, Washington, D. C. Indexes of industrial manufacturing payrolls, from U. S. Department of Labor, Bureau of Labor Statistics, Washington, D. C.

[1] Unadjusted for seasonal variation.

[2] Demand deposits of Oklahoma member banks of the Federal Reserve System located in places under 15,000 population.

[3] Index numbers based on net demand deposits prior to 1936 and upon gross demand deposits since that date. For a discussion of this index see CURRENT FARM ECONOMICS, Oklahoma Agricultural Experiment Station Series 49, Vol. 13, Nos. 1 and 2. Feb.-Apr., 1940. p. 41.

[4] The number of bushels of corn or pounds of feed which one unit of the commodity (100 pounds of hogs, one dozen eggs, one pound of turkeys or milk) will purchase. Prices used are the official A.M.S. estimates of prices received by Oklahoma farmers except for commercial feeds or ingredients which are official A.M.S. estimates of prices paid by Oklahoma farmers. These ratios are computed on the basis of fixed rations and are not directly comparable with ratios computed from other rations. The composition of each ration used is available upon request.

* Revised.

3-60/3½M.